

MONTHLY WEATHER REVIEW,

JUNE, 1873.

WAR DEPARTMENT,

Office of the Chief Signal Officer,

DIVISION OF

TELEGRAMS AND REPORTS FOR THE BENEFIT OF COMMERCE AND AGRICULTURE.

STORMS.

During this month ten disturbances have crossed portions of the country east of the Rocky Mountains. The accompanying map shows, approximately, the paths of their centres. The figures above them are the dates of the month; those below, 1, 2, and 3, indicate respectively the time of the morning, afternoon and midnight observations; the dots upon them show the location of the centres at each observation.

The centre of that of June 1st and 2nd moved over eastern Florida into southern Georgia and disappeared, producing heavy rains and brisk winds.

June 3d and 4th.—From Dakota over Iowa, Lake Michigan, Lower Lakes, New York and New England; accompanied by fresh and brisk winds over the Northwest, Lakes and Atlantic States, and by rain, at places heavy, east of the Rocky Mountains, except on the Gulf coast.

June 7, 8, 9, 10 and 11.—From Dakota over Minnesota, the Lake region and northern New England; with rain, generally heavy, fresh and brisk winds and occasionally severe thunder-storms over the northern portion of the country.

June 12, 13, 14 and 15.—One southeastward over Minnesota to Lake Erie and thence northeast into Canada, causing thunder-storms, with rain-areas, generally light, and fresh and occasionally brisk winds from the Ohio valley to the Lakes; a second apparently developing in the Southern States, thence eastward to the coast and northeastward over probably Nova Scotia, with fresh and brisk winds and rain-areas on the coast.

June 14, 15, 16 and 17.—Over Dakota, Lake Superior and thence probably over Maine, producing areas of light rain and fresh and brisk winds over the northern portion of the Middle States and the Lake region.

June 18, 19 and 20.—Over northern Minnesota, Lake Superior and thence over Maine and Nova Scotia, attended by occasional rain-areas and brisk and high winds over the Northwest, Lake region and New England.

June 21, 22, 23 and 24.—From Dakota over southern Minnesota to Iowa, then breaking up into and sending out to the eastward several minor disturbances, producing severe thunder-storms of short duration from Missouri and the Ohio valley northward.

June 25, 26, 27 and 28.—Eastward over northern Dakota, Minnesota, Lake Superior and northern New England, sending a branch over Iowa, with severe thunder-storms from Tennessee to the Northwest, Lakes and New England.

June 28, 29 and 30.—Over Minnesota and the Upper Lakes into Canada, accompanied by severe thunder-storms north and west of the Ohio valley, brisk winds over the Northwest, Lake region and Atlantic States, and rain, often quite heavy, from the lower Mississippi, Northwest and Lakes to the Atlantic coast.

One Cautionary Signal was displayed at Duluth on the 17th.

TEMPERATURE.

The mean temperature for June, 1873, is higher than the mean for the month, except for the vicinity of Lake Superior, where it is lower by $0^{\circ}.7$ to $1^{\circ}.8$; in the South Atlantic States it varies from $1^{\circ}.6$ below to $1^{\circ}.0$ above, and from New Jersey and eastern Pennsylvania to Maine, $1^{\circ}.2$ below to $1^{\circ}.1$ above. The excess is greatest in northeastern Virginia, $4^{\circ}.5$; northern New York, $1^{\circ}.1$ to $4^{\circ}.7$; Kentucky, Ohio, Indiana and southern Michigan, $1^{\circ}.7$ to $6^{\circ}.5$; southern Alabama, $4^{\circ}.9$; Illinois, southern Wisconsin and eastern Iowa and Missouri, $7^{\circ}.5$ to $2^{\circ}.1$; eastern Kansas, $4^{\circ}.2$; southern and western Minnesota, $4^{\circ}.8$ to $6^{\circ}.7$; Fort Sully, Dakota, $8^{\circ}.0$ (?) and Cheyenne, $4^{\circ}.4$.

The mean for June, 1873, is lower than that for June, 1872, at San Francisco, $1^{\circ}.1$; in the Gulf States, $0^{\circ}.4$ to $1^{\circ}.6$; in the South Atlantic States, $0^{\circ}.3$ to $2^{\circ}.0$; in the vicinity of Lake Superior, $0^{\circ}.4$ to $1^{\circ}.6$. It varies in the Middle Atlantic and New England States from $1^{\circ}.1$ above to $3^{\circ}.9$ below. The former is the higher in Iowa and southern and western Minnesota, $4^{\circ}.5$ to $5^{\circ}.5$; in the Ohio valley, $1^{\circ}.0$ to $4^{\circ}.7$; over the Lower Lake region, $1^{\circ}.1$ to $2^{\circ}.7$.

MEAN TEMPERATURE.

SIGNAL SERVICE.	1871.			1872.			1873.		
	APR'L	MAY	JUNE	APR'L	MAY	JUNE	APR'L	MAY	JUNE
Washington.....	57°·6	64°.	73°·2	56°·2	67°·8	76°.	53°·3	63°·6	76°·5
New York	54°·2	58°·6	69°.	49°·7	61°·9	72°·8	46°·3	57°·6	68°·9
Boston.....	46°·7	57°·4	66°·2	46°·3	57°·2	67°·6	44°·6	56°·8	67°·2
Chicago.....	51°·2	56°·7	66°·8	47°·9	56°·1	69°·5	42°·3	53°·9	70°·2
St. Louis.....	60°·3	69°·1	79°.	57°·5	67°·4	76°·9	51°·2	65°·1	77°·1
New Orleans.....	70°·8	76°.	82°·5	70°·4	75°·8	80°·5	66°·9	73°·7	80°.

RAIN-FALL.

The returns for the month from the Signal Service stations show that there has been an excess of rain over the mean from Florida to western Tennessee and westward to Arkansas and eastern Texas, varying from 6.50 inches to 0.86 inch, from eastern South Carolina to southern Virginia 1.29 inches to 0.60 inch, from central Indiana to southeastern Missouri 1.42 inches to 0.68 inch, over northeastern Ohio 1.23 inches, and from eastern Nebraska northeastward to eastern Minnesota and northern Wisconsin and over northern Michigan 4.34 inches to 0.45 inch.

There has been a deficiency in New England varying from 1.79 to 4.00 inches, in the Middle States, except southern Virginia, 0.44 to 3.26 inches, from northern portions of Georgia and South Carolina to the Ohio valley 0.35 to 2.03 inches, from northeastern Kansas to southern Wisconsin and northern Illinois 1.67 to 3.90 inches, over northwestern Ohio and southeastern Michigan 0.29 to 1.23 inches, and over western Minnesota 0.98 inch.

RIVERS.

The Red river rose steadily at Shreveport during the first week, after which it remained nearly stationary until the 28th, when it began to fall slowly.

The Arkansas fell and rose alternately during the first twenty days, then fell steadily, having been eight and a half feet lower on the 30th than on the 1st.

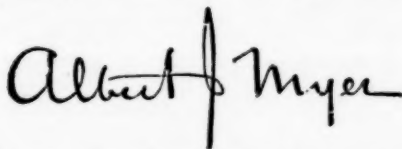
The Missouri at Fort Benton rose steadily until the 19th. Throughout the lower portion of the river an almost continuous rise occurred, although a slight fall was observed between Kansas City and Brunswick after the 26th.

The Mississippi fell slowly at St. Paul and between Cairo and New Orleans, (excepting some slight oscillations,) the difference between highest and lowest water for the month being at St. Paul nearly five feet, between Cairo and Vicksburg nearly eight feet and at New Orleans eleven inches; between Le Claire and Warsaw a gradual rise occurred from the 4th until the middle of the month, after which a steady fall was observed; at St. Louis the water rose slightly between the 3d and 11th, falling slowly after that date.

The Cumberland at Nashville fell from the 1st to the 9th, then rose until the 19th, fell again until the 27th, rose until the 29th, but on the 30th it began again to fall—the difference between highest water (19th) and lowest water (9th) being six feet.

The Ohio, at Marietta and above, as well as its tributaries, has changed comparatively little; from Cincinnati to Evansville it has fallen almost continuously—the difference between highest and lowest water being nearly nine feet at Cincinnati and Evansville and three at Louisville; at Paducah the water fell from the 1st to the 11th, rose until the 21st, falling again from that date until the 30th.

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Brig. General and Chief Signal Officer, U. S. A.

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